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HIV/AIDS Rates in Tijuana, Mexico Increasing at Alarming Rate

Interventions to reduce on-going spread of HIV urgently needed, according to researchers at the UCSD School of Medicine

A study by researchers at the University of California, San Diego (UCSD) School of Medicine indicates that the rate of HIV/AIDS infection in Tijuana, Mexico is increasing, and much higher than had been previously estimated. The findings are based on data compiled by a team of researchers working in San Diego and Mexico to create a population-based model in order to estimate HIV infection rates.

The number of men and women aged 15 to 49 years who are infected with HIV in Tijuana may be as high as one in 125 persons, according to Kimberly C. Brouwer, Ph.D., assistant professor in UCSD's Division of International Health and Cross-Cultural Medicine in the Department of Family and Preventive Medicine. Brouwer's study will be published in the March 1 issue of *The Journal of Urban Health*, a bulletin of the New York Academy of Medicine.

Located directly south of San Diego California, Tijuana is a city of 1.2 million people located amidst the busiest land border crossing in the world. Data in this study suggest that Tijuana's HIV infection rate may be close to three times higher than Mexico's national average. The United Nations AIDS Program considers an HIV epidemic to advance from a low level to a concentrated epidemic when more than 1% of the population is infected – a figure that Tijuana may soon approach if preventive steps aren't taken, according to researchers.

"Intervention and prevention on both sides of the border are urgently needed, because of the high mobility between Tijuana and San Diego County," said Brouwer, adding that high-risk groups – men who have sex with men, injection drugs users, sex workers and pregnant women – are of particular concern.

The aim of the UCSD study, conducted along with collaborators in Mexico, was to estimate the number of men and women in Tijuana, aged 15 to 49 years, infected with HIV. This is the age group assumed to be at the highest risk of contracting the HIV infection. The bi-national team of researchers – including researchers at the municipal, state and federal level – used recently published reports, community-based studies and data from Mexico's National Center for the Prevention and Control of HIV (CENSIDA), extrapolated with population estimates based on the 2000 Mexican census.

The dramatic rise in HIV infection may be linked to a number of factors including Tijuana's proximity to the United States, which creates economic opportunities that

attract migrants from elsewhere in Mexico. Such migration is linked to lower socio-economic status, social and political alienation, lower awareness of HIV/AIDS and, for some, the need to turn to substance use and sex work to fill the perceived void – all contributing factors that can lead to increased vulnerability to HIV infection.

Although homosexual/bisexual men continue to be the groups most affected by HIV/AIDS in the border region, needle sharing among injection drug users leads to increased HIV infection, and Tijuana is on a major drug-trafficking route. The model used in the study suggests that injection drug use and sex trade may be driving the HIV epidemic in Tijuana. The population's mobility is also a consideration; 64% of Tijuana residents report crossing the border into the United States at least once a month.

“HIV prevention should be considered a public health priority,” said Brouwer. She notes that Mexico is taking many of the right steps in that direction. “For instance, screening of expectant mothers has become more common, with more than 95% of women delivering babies at Tijuana General agreeing to rapid screening and intervention. If a mother tests positive for HIV infection, antiretroviral medicine can be administered to reduce the risk of HIV infection from being passed on to her infant.”

Health officials in Mexico and the U.S. agree that expansion of free and voluntary HIV screening and counseling are needed.

“Other studies by this team reveal that only half of female sex workers and one third of injection drug users in Tijuana have ever had an HIV test,” said Carlos Magis-Rodriguez, M.D., M.P.H., co-author of the study and Director of Epidemiology at CENSIDA, Mexico's federal HIV/AIDS agency. “Simple steps, such as proper use of condoms and increasing the availability of sterile syringes, can make a major difference in fighting this epidemic,” said Steffanie Strathdee, Ph.D., Chief of the Division of International Health and Cross-Cultural Medicine at UCSD, where the study was conducted.

Other co-authors include Robert S. Hogg, Ph.D., UCSD Division of International Health and Cross-Cultural Medicine and Department of Family and Preventive Medicine; Enrique Bravo-Garcia and Cecilia Gayet, Centro Nacional para la Prevencion y Control del VIH/SIDA (CENSIDA), Mexico City; Thomas L. Patterson, Ph.D., UCSD Department of Psychiatry; and Stefano M. Bertozzi, Ph.D., Instituto Nacional de Salud Publica, Cuernavaca, Morelos, Mexico.